

## REMARKS

### Interview Summary

Applicant appreciates the consideration extended in the telephone interview held on April 21, 2010 with Examiners Wong and Sparks, and Eric Curtin (Reg. No. 47,511) and LeRoy Maunu (Reg. No. 35,274). Claim 1 was discussed relative to the cited prior art. No agreement was reached. In the interview between Examiner Wong and LeRoy Maunu on May 7, 2010, the amendment to claim 1 as presented above was discussed. Agreement was reached that the cited prior art does not suggest all of the elements recited in the pending claims. Examiner Wong indicated an update search would be required.

### Claim Status

Claims 1 and 25 are amended for purposes of expediting prosecution. Support for the amendment is provided by the embodiment(s) described in paragraph [0027], for example. Claims 1-20, 25, and 27-33 remain for consideration. In the discussion set forth below, Applicants do not acquiesce to any rejection or averment in the Office Action unless expressly stated. Applicant believes that all pending claims are in condition for allowance and respectfully requests allowance of all the claims.

### Objection

Claim 1 was objected to for not having antecedent basis for the element "wherein each design in the population is programmed in a programmable device..." Applicant respectfully submits that those skilled in the art would recognize the antecedent basis for these elements in paragraphs [0003], [0010], [0017], [0030], [0032], [0033], [0034], [0035], and [0036], for example. Therefore, the objection should be withdrawn.

Definiteness Under 35 U.S.C. §112, Second Paragraph

Claims 1-20 are believed to be definite under 35 USC §112, second paragraph, and the rejection is respectfully traversed because the claims would be reasonably clear to those skilled in the art. However, phrase, “and in response to a result signal of the new design being within a selected range of result signals from the consensus result” has been deleted for purposes of clarification, and the rejection should be withdrawn.

Novelty Under 35 U.S.C. §102(b)

Claims 1-2 and 5-20, 25, and 27-33 are understood to be novel over “Vigander” (“Evolutionary Fault Repair of Electronics in Space Applications”, by Vigander et al.) under 35 USC §102(b). The rejection is respectfully traversed because the Office Action does not show that all the elements of the claims are taught by Vigander.

Applicant respectfully submits that Vigander’s teachings do not correspond to the claimed “determining a consensus result as a function of at least two of the generated result signals; evolving one or more new designs from at least one design in the population; evaluating each of the one or more new designs for consistency with the consensus result; selecting a final new design from the one or more new designs in response to the final new design being consistent with the consensus result; [and] selecting for replacement at least one design as a function of the associated fitness level[.]”

Vigander does not evaluate one or more new designs for consistency with the consensus results and then select a final new design from the one or more new designs. Vigander has no apparent need for any evaluation of a new design with the elitism approach.

For reasons similar to those provided above with respect to claim 1, Applicant submits that independent claim 25 is also patentable over Vigander. Claims 2 and 5-20 depend from claim 1, and claims 27-33 depend from claim 25 (claims 24 and 26 are cancelled). Therefore, claims 1-2 and 5-33 are novel over Vigander, and the rejection should be withdrawn.

35 U.S.C. § 103(a )Rejections

Claims 3-4 are understood to be patentable under 35 USC §103(a) over Vigander in view of “Yao” (Making Use of Population Information in Evolutionary Artificial Neural Networks, IEEE 1998) to Yao. The rejection is respectfully traversed because the Office Action does not show that all the elements are suggested by the combination and does not provide a proper motivation for modifying the teachings of Vigander with teachings of Yao.

Claims 3-4 depend from claim 1, and Yao neither teaches nor suggests those elements of claim 1 which Vigander does not teach, as explained above. Therefore, the Office Action has not shown that the Vigander-Yao combination suggests all the elements of claims 3-4. The rejection of claims 3-4 should be withdrawn because a *prima facie* case of obviousness has not been established.

CONCLUSION

Reconsideration and a notice of allowance are respectfully requested in view of the Remarks presented above. If the Examiner has any questions or concerns, a telephone call to the undersigned is invited at (408) 879-4682.

Respectfully submitted,

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*I hereby certify that this correspondence is being filed via EFS-Web with the United States Patent & Trademark Office on May 11, 2010.*

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